REMARKS

Applicants appreciate the Examiner's indication of allowable subject matter at page 5 of the Official Action. Applicants kindly point out that the remaining claims are similarly allowable for the reasons given below.

The rejections over U.S. Patent No. 6,158,245 to Savant are kindly traversed. The present invention is neither anticipated nor made obvious by the teachings of Savant for at least the reason that Savant has nothing to do with making a porous sol-gel fiber. Rather, Savant discloses methods for making monolithic glass light shaping diffusers (LSD's), which are not what is claimed.

Savant does not disclose making a fiber by molding. Instead, Savant relates only to the production of surface LSD's. Surface LSD's are monolithic materials, not fibers. Savant discloses that a surface LSD is a surface relief optical element primarily characterized by the incorporation of light shaping structures on its surface and which diffract light passing therethrough (column 1, lines 55ff). Savant discloses that surface LSD's can be produced by adding sol-gel material to a flexible mold having a surface relief shaping structure on the interior mold surface (column 6, lines 9-12) but can also "be formed in a convex or concave surface through conventional molding, grinding, or polishing techniques" (column 6, lines 25-27). Such disclosure does not bring to mind a fiber, in contrast to the present invention.

For convenience, the Savant disclosure relied upon by the Office to provide the term "fiber" is repeated below:

> "The sol-gel process offers several advantages when compared to the production of glasses by conventional melting techniques including...the ability to form fibers, films, monoliths, or compositions by techniques such as fiber drawing, spinning, dipping, casting and impregnation due to the rheological properties of the sols or gels." Column 6, lines 46-57.

The Office appears to misconstrue the above passage in Savant. At best, the above passage states what is already well-known, that high purity silica monolith may be made with sol-gel technique and optical fibers may be produced by techniques such as fiber drawing (of the pure silica monolith). It does not suggest that sol-gel fibers, porous or otherwise, could be produced by molding. Applicants kindly submit that this passage merely points out the advantages that sol-gel process have over conventional techniques of melting solid raw material due to the capability of preparing high purity silica or material of exactly desired composition. High quality optical fibers can be made from melting and fiber-drawing of the high purity silica. It does not anticipate or make obvious the present invention.

Savant does not disclose making a *porous* sol-gel fiber, in contrast to the present invention. Indeed, the reference teaches away from porous sol-gel materials. Column 7, lines 9ff of Savant recite:

> "The typical sol-gel process includes first preparing a solution of a metal alkyl oxide, water, and a suitable solvent such as ethanol, then causing or permitting the solution to undergo a sol-to-gel transition to form a gel, and then aging the gel to form a porous hydrated glass. *The hydrated glass is then heat treated to reduce its porosity by consolidation.*" Emphasis added.

Later, at column 8, lines 20ff, Savant discloses:

> "A true monolithic glass material is formed during the aging process. However, this glass is very porous and relatively brittle. The glass is preferably heat treated in Step 28 to consolidate the glass (i.e., to *collapse the pores into a solid glass structure*) by sintering and thereby to increase its rigidity and durability. ... The result of the process of FIG. 2 is a high quality silica *monolith* with high durability and other beneficial qualities... ." Emphasis added.

The "heat treatment" and "consolidation" are disclosed throughout Savant in order to collapse the pores to obtain a solid glass structure. See, e.g., column 10, wherein it is disclosed that "the glass is heat treated in the normal manner...to consolidate the glass in the film layer"

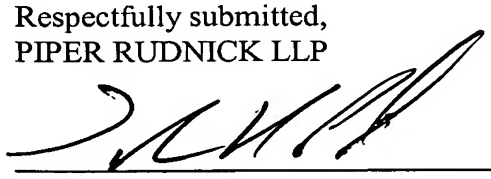
(lines 17-18). See also the disclosure at column 12, lines 6-7 and the final steps of Figures 2, 5, and 6.

Savant teaches away from porous sol-gel LSD's at column 10, lines 21-44, wherein it is observed that heat treatment of the porous glass results in considerable shrinkage, e.g., on the order of 30-40%, and that this shrinkage due to heat treating *improves* the optical qualities of an LSD. Savant compares two LSD's that have been heat-treated to a non-heat-treated, porous LSD. See, e.g., Figures 7-9. Savant indicates that heat-treating desirably results in an overall increase in the angular distribution characteristics of the LSD. Thus, Savant teaches away from porous sol-gel products. Applicants note that all of Savant's method claims either include heat-treating temperatures which would consolidate the glass or expressly recite that the resulting product is non-porous.

For the reasons given above, the Savant reference neither anticipates nor makes obvious the present invention, and its withdrawal is kindly solicited.

This application is now believed to be in immediate condition for allowance, and an early favorable indication thereof is kindly requested. Should the Examiner have any questions about the case or any suggestions to place it into even better condition for allowance, the Examiner is kindly invited to telephone Applicants' below-signed representative at the number given below.

Respectfully submitted,
PIPER RUDNICK LLP



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